

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 06-265789

(43)Date of publication of application : 22.09.1994

(51)Int.Cl.

G02B 17/08

(21)Application number : 05-051718

(71)Applicant : NIKON CORP

(22)Date of filing : 12.03.1993

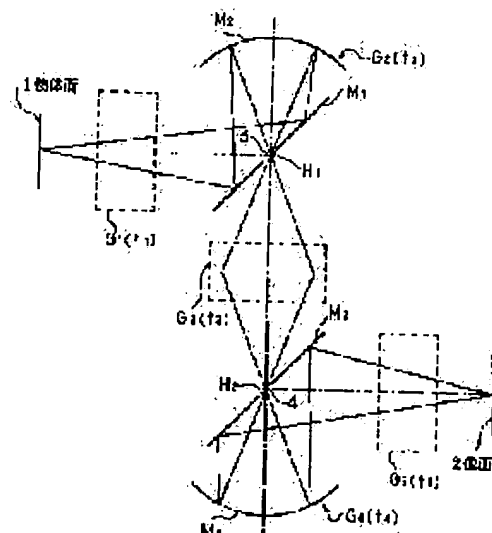
(72)Inventor : TAKAHASHI TOMOWAKI

## (54) REFLECTION/REFRACTION/PROJECTION OPTICAL SYSTEM

## (57)Abstract:

**PURPOSE:** To provide a reflection/refraction/projection optical system with superior image-forming performance without using a beam splitter and capable of employing a batch exposure system.

**CONSTITUTION:** Light from a pattern on an object surface 1, after being reflected on the peripheral part of a first plane mirror M1 via a first convergence group G1, arrives at a second convergence group G2 consisting of a first concave reflecting mirror M2, and light reflected on the second convergence group G2 image-forms the intermediate image of the pattern in the aperture of the first plane mirror M1. Light from the first intermediate image image-forms the second intermediate image of the pattern in the aperture of a second plane mirror M3, and light from the second intermediate image arrives at a fourth convergence group G4 consisting of a second concave plane reflecting mirror M4, and light reflected on the fourth convergence group G4 is reflected in the periphery of the second plane mirror M3, and reflected light image-forms the third intermediate image of the pattern on the surface of an image surface 2 via a fifth convergence group G5.



## LEGAL STATUS

[Date of request for examination]

09.03.2000

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number] 3339592

[Date of registration] 16.08.2002

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2000 Japan Patent Office